Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

canal and notochord. As the embryology of no member of the Ratitæ or Struthionidæ has ever been studied, Dr. Haswell's work when published will have no little value.

PSYCHOLOGY.

Evolution and Idealism.—The doctrine of idealism is naturally attractive to the minds that believe in mind. To feel that mind is all in all, and is not bound to "low material things," is as agreeable to the metaphysician as it is to the seeker for immortality. Moreover, the doctrine seems to have a certain support from the scientific side. We know that our knowledge of what are vulgarly supposed to be the properties of matter, is not derived from a single sense, and we readily understand that those properties would appear to be greatly modified, were the number of our senses reduced or increased. Moreover, we know from experience of the abnormal or diseased states, both of ourselves and of other men, that the appearances of the objective world may be wonderfully modified by changes in ourselves. The hallucinations of delirium and other forms of mental disorder, are matter of every-day knowledge; and the illusions that may deceive even the healthy mind are equally well known. The question between the realist and the idealist is, what do these facts prove?

They certainly do not prove that a universe which presents in its parts, and therefore in its entirety, the two properties of extension and resistance, has no existence. They certainly do prove that our knowledge of such universe and of its parts is imperfect. It is to remedy this imperfection, and to enlarge our knowledge that many men spend much labor and time. And the knowledge thus acquired and exactly systematized, is called science. The pursuit of science postulates the existence of that which it pursues, not as states of consciousness, but as objective realities. There are reasons for the soundness of this view, which I propose briefly to enumerate.

If a given supposed object be in reality a purely mental state on the part of the subject, a rational cause for the production of that state is wanting. But letting this difficulty pass for the time, and letting it be supposed that there is some apparent undefined cause for such state existent when the subject is present to it, if the phenomenon be only a mental state, so soon as the subject mind betakes itself to some other locality, the supposed cause must cease to exist to that person or subject. To a second person or subject who may remain behind the first, the cause of the mental state does still exist On the departure of the second person, it ceases to exist for him but continues for the third person, and so on. In the presence of these facts, consistency requires one of two conclusions, on the part of the idealist; either he must deny the validity of the mental states of other men, or he must believe in the Hegelian aphorism, "Existence and non-existence are identical." Some idealists adopt the one, and others the other of these two horns of the dilemma.

But the difficulty is immensely increased when we contemplate the mental lives of the lower animals, with their varied sense organs and media of contact with the so-called material world. We can readily imagine the limitations under which many of them exist through their structural deficiencies; but we cannot so well imagine, though we are compelled to believe in the wonderful acuteness of the perception, and the to us incomprehensible peculiarity of sensation, produced by the various special organs of sense with which many of them are furnished. Think of the tactile sensibility to slight movements of the water possessed by the blindfish of the Mammoth Cave. Think of the sense impressions of which we know nothing conveyed by the antennæ of insects. Think especially of the "other world than ours," in which many of the Mammalia live, in consequence of the high development of the olfactory sense. We can easily perceive the result of the idealistic reasoning on the part of the inferior animals, were they capable of it. To many of them mankind would not exist; to others the sun would be a fiction. Those to whom low tones are imperceptible, would deny the existence of the only vibrations that some other species is adapted to hear.

The idealistic position which denies the existence of matter, results from a process of cancellation of the objective universe bit by bit. One animal after another, and one sense after another, are proven fallible, and so the entire objective superstructure disappears. The realist, on the other hand, adds together all the phenomena derived from all the senses of all conscious beings, thus getting a positive result, where the idealist gets a negative one. Which is the more rational of the two methods? The actual result to thought is, that we learn the insufficiency of each and every sense, but not its impotency. We are instructed that our true policy is to use our senses to the best purpose, and to add to their number, so that the defect of our knowledge may be remedied, and our mental vision enlarged more and more. And this is the mission of science.

But all knowledge, we are told, is relative, and that of the absolute reality we can learn nothing. This doctrine does not necessarily involve idealism, but it is necessarily held by consistent idealists. One can believe in a material universe and still hold that we do not know it absolutely or even truly. And as "we are all poor creatures," many of us are prone to repeat "great is the doctrine" of the Relativity of Knowledge! And the scientist echoes, but in a different spirit, great is the doctrine of the Relativity of Knowledge; yea, great is our Ignorance! Great is *our* ignorance indeed, but not "great is Ignorance!" The scientist does not worship ignorance; he worships knowledge, and his occupation is to increase knowledge. To the responsive intellect and enterprising spirit, the knowledge of our ignorance is the stimulus to unceasing labor. To men of a more lymphatic temperament the knowledge of ignorance seems to paralyze their lives. But science has done much towards elucidating the order of the universe, and will do more.

Evolution gives the *coup de grace* to idealism of the consistent type. In the gradual unfolding of organic life it sees the two universal facts, subject and object. It sees them interact and influence each other. Under the influence of active, conscious life thousands of tons of substances are transported from place to place and metamorphosed in the process. Under the influence of life, from which consciousness may or may not be absent, thousands of tons of matter have been made into soil, rocks, and living tissue. On the other hand, the objective environment has constrained all living things into rigid modes, and has extinguished millions. In the midst of all this turmoil, consciousness has picked and wound its way, ever gaining in strength and skill, till now we behold man. Of all animals, man controls his environment most completely. He begins by making his own heat and light; he makes his food to grow, and his skin is partly his own manufacture. He does this, and very much more, with infinite pains and toil, and yet some individuals of his species actually deny the existence of this environment, which has compelled him to be what he is!

It is equally competent for the materialist to deny the existence of mind, as for the idealist to deny the existence of matter. The materialist, beholding the imperfection of the senses, may pronounce them to be, one by one, incompetent witnesses, and declare them to be illusions. The mind, which is the product of these impressions, immediate or remembered, falls with them; it is also an illusion. But the fact is, both exist, object and subject, matter and mind. And since matter cannot study mind, mind must study matter, and by so doing grow to more absolute knowledge and greater control of its physical basis, and therefore of itself.

It can now be seen why the study of the "problem of cognition" has little interest to progressive science. Its result is an expression of our ignorance in philosophical form, a proposition which the scientist is not disposed to deny. But when he asks the philosopher "what do you propose to do about it?" and gets the same old story reiterated from the old scholastics to the latest relativist, he turns from such blind guides to his own, and to nature's laboratories, and goes to work. And the theologian applauds the philosopher, and says of the scientist in his prayers, "I thank Thee that I am not as this section-cutter, this bug-hunter, nor even as this bone sharp." But the scientist knows that he holds the key of the situation, and he lets the philosopher and the theologian rejoice themselves, each in his appropriate department of Swedenborg's heaven. The field of Idealism has been well worked out, and we of this age should thank the mighty men of the past for having done it for us. We can now go on with an easier mind in a more profitable pursuit.

Doctor Montgomery's last article in Number 21 of *The Open Court*, states at once the strength and weakness of idealism. Its principal weakness is that it is unable to stand alone without a good strong realistic prop somewhere behind. Thus the Doctor says (p. 587): "The tri-dimensional, hard, colored, sounding, scented, heated matter—fancied by Professor Cope and others to subsist outside consciousness, and believed by them to be directed and organized by such consciousness—is, indeed, through and through, a fictitious entity, consisting of nothing but a set of our own percepts illusively projected into non-mental existence." This looks like pure idealism, but he lets in a "non-mental existence." Now what is this? On page 589 (bottom) he says: "Now the realistic assumption which the philosophy of organization here makes, is indeed, the simplest possible, and is in full agreement with given facts. It supposes that there subsist in nature non-mental existents possessing the power of specifically affecting our individual sensibility, and of manifesting their special characteristics by means of the different conscious states they arouse in us." This is a little more definite, and the Doctor even calls it by its right name, a "realistic assumption." This is quite to my liking, but I cannot perceive how such "non-mental existent" can have less than three dimensions and still exist. And in order to prove to me that mind or consciousness has no control over this tri-dimensional "non-mental existent," Dr. Montgomery must go into further particulars. He must prove to me than an animal does not eat or drink because it feels hungry or thirsty; does not seek shelter on account of weather or temperature; expresses nothing in its voice of pain, desire or pleasure; that the horse does not run because he is whipped, or the bird build because it feels the necessity of laying, etc., etc.

I must here protest against the misinterpretation of an expression contained in one of my earlier articles, which was not sufficiently guarded, it is true, to preclude such misconstruction. It is possible to say correctly that "mind is a property of matter, as color and odor are properties of the rose," without meaning to say that the two properties are such *in the same manner*, as is inferred by my critic (p. 589). My article in Number 19 of *The Open Court* is sufficiently clear as to what I understand by mind as a property of matter, so that it is unnecessary to go into a fuller explanation. Suffice it to say that the conscious and the unconscious properties of matter cannot be confounded by any rational thinker, and that such confusion is entirely foreign to my thoughts. More than one-third of Dr. Montgomery's article Number 5 is thus irrelevant. In the other two-thirds I fail, as yet, to find a definite theory which shall explain the apparent facts of designed movements of animals, differently from that which is held both by physiological science and by popular belief. That is, that the design in them is the direct result of a limited control which conscious states have, or did once have, over the energy and the matter concerned in producing them. —*E. D. Cope,* in No. 23 of *The Open Court.*

NOTES ON FORSTER'S TERN,[1] *Sterna forsteri* Nutt.—In spending my summer vacation two years ago at Piney Point, Maryland, some ninety miles from Washington, I had abundant opportunity to study the movements of this beautiful bird.

Their elegant appearance, whether flying gracefully over the water in search of their food, or floating jauntily on a drift log, or darting swifty from place to place, makes them very attractive.

I started out one fine morning, on a collecting tramp, and the sun, which had risen clear and bright, gave evidence of a warm, sultry day; but the wind, shifting, scattered the clouds over the sky, and a dull, rather cool day followed. I continued my walk to the river; the receding tide had leit a sand bar high and dry some twenty feet from the shore, and on this I noticed a flock of Forster's terns, which took flight as I approached. I fired, one dropping dead amid the shrill cries of his companions. As the water was very shallow I commenced to take off my shoes and stockings in order to wade out and secure my specimen; but, to my astonishment, the whole flock renewed their cries vociferously and commenced to circle around me, and from me to the dead bird, as if they knew that I was responsible for their companion's misfortune.

As I commenced wading, the birds seemed to ascertain my object, and they, with one accord, began to fly higher and enlarge their circle, and, flying faster than the rest of the flock, the first six or eight separated themselves in single file, and each one while flying, with a strenuous effort, gave the dead bird a push with its feet; each individual of the flock pushed in rapid succession, and soon would have had the specimen beyond my reach if a friendly boat had not come along and rescued it and dispersed the flock.

For a whole flock of birds to act in perfect unison and with one impulse, to remove a bird in the quickest and most effective manner, is certainly a wonderful performance, which can hardly be credited to instinct (as it is scarcely to be supposed that the affection for members of a flock would be as strong for a mate as for their young).—*P. L. Jouy in Field and Forest.* Washington. Vol. II., No. 2. August, 1876, p. 29.

VARIATIONS OF THE NORMAL KNEE-JERK.—The first and most extensive paper in the first issue of the *American Journal of Psychology* is by Dr. W. P. Lombard, and describes the results of more than six thousand experiments made upon himself by the writer. It was found that not only does the extent of the knee-jerk or knee-kick vary according to the force of a blow struck just below the patella, but also in response to stimuli of other kinds. All the blows were struck by a hammer which struck with a known force, appended to an accurate recording apparatus. The extent of the jerk proved to be an index of the state of the nerves. The first series of experiments showed that the jerk obtained upon rising in the morning was small; that that given after breakfast was, on the average, higher than those at subsequent hours, and that it rose after each meal; also, that the effect of muscular exercise was always to largely diminish its extent. Slight mental fatigue does not seem to affect the knee-jerk, while unusual mental fatigue produced an irritability which reinforced it. Irritation of the skin, voluntary movements, attention to unusual sounds, exciting mental work (such as the recitation of a stirring poem), music (especially of an emotional character), exciting dreams, all increased the extent of the knee-jerk. Violent respiratory movements also increased it, while a rise of temperature or a fall of the barometer diminished it, opposite meteorological conditions producing opposite results. A second series of experiments confirmed the results obtained by the first.

ARCHÆOLOGY AND ANTHROPOLOGY.

THE MAGIC MIRROR OF CHINA AND JAPAN.—The magic mirror is the common toilet mirror or *kagami* in everyday use in Japan. It is a thin disk of cast bronze about eight inches in diameter, or of various sizes, and has a short handle cast with the piece. The plane side is amalgamated; on the back are representations in relief of bamboos, ships, storks, trees, etc., and generally two large characters.

The performance of this mirror has long excited great curiosity and interest, and there have been many ingenious conjectures as to the reason of the strange way of its reflection. The magic is that, when it is properly prepared and the sun's rays caught upon it and reflected on a screen, the outlines of the characters and figures on the back show in the reflection. The figures appear lighter than the rest of the field, and not frequently with a sharp outline. Better results will be obtained if the mirror is slightly warmed, laid on its back on a perfectly flat surface, and briskly polished with a cloth. Then, if the sun's rays are caught upon it, at first in the reflection the figures cannot be seen, but they gradually appear and are permanent. In China its peculiarity has been long and well known, for it was spoken of with great admiration in the eleventh century by Tchin-Kouo, and the poet Kin-ma, celebrated it in verse. It is probably used as one of the very numerous agents of divination practiced there; and in passing, we note that a mirror, the symbol of purity, is found in every Shinto temple and shrine in Japan. The Chinese mirror has no handle; it is held by cords passed through lugs at the back.